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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,025	07/26/2005	Hae-Wook Lee	8947-000122/US	9491

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HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 8910
RESTON, VA 20195

EXAMINER	
JACKSON, MONIQUE R	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
07/22/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,025	LEE ET AL.	
	Examiner	Art Unit	
	Monique R. Jackson	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/11/09 has been entered.

2. The amendment filed 5/11/09 has been entered. New claims 37-43 have been added. Claims 1-43 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7, and 16 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Ito et al (USPN 6,992,431.) Ito et al teach an antistatic film formed from a dispersion of high-resistance fine particles dispersed in a solvent wherein the high-resistance fine particles comprise a conductive substance core and have a particle diameter of 5 to 100nm, and the solvent is an organic solvent wherein ethers such as ethylene glycol monomethyl ether and ethylene glycol

monoethyl ether may be used (Col. 4, lines 1-10 and 14-29.) Ito et al also teach that the dispersion may further include a well-known dispersant (Coo. 4, lines 12-13.)

5. Claims 1, 3, 16, 17, 37, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-007936A (JP'936.) JP'936 teaches an aqueous carbon black dispersion comprising 1-40wt% carbon black and 1-30wt% surfactant (*reads upon amphiphilic solvent*) wherein the carbon black has an average primary particle diameter of 8-80nm (Abstract.) JP'936 teaches that the surfactant is a combination of two nonionic surfactants comprising a crosslinked polyoxyethylene acrylic acid and an alkyloxy ethylene (Abstract.)

Claim Rejections - 35 USC § 103

6. Claims 1-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamoto et al (USPN 6,632,274.) Kawamoto et al teach an ultrafine particle dispersion composition prepared by dispersing infrared ray shielding ultrafine particles having an average particle size of from 10 to 60nm, in a plasticizer as described at Col. 4, lines 1-28, and using this composition to obtain a infrared shielding film for windows, a laminated glass or an interlayer of a laminated glass which is excellent in infrared ray shielding performance, wherein the ultrafine particles are ITO, ATO, zinc oxide or titanium nitride fine particles (Abstract; Col. 5, lines 28-35; Col. 9, lines 11-15.) Kawamoto et al teach that the dispersion composition preferably comprises a dispersing agent and may further contain an organic solvent for the purpose of reducing the viscosity at the time of dispersion and improving the dispersibility, wherein suitable solvents include alkylene glycol monoether type solvents such as ethylene glycol monomethyl ether and ethylene glycol monoethyl ether (Col. 6, lines 10-21; Col. 8, lines 22-52.) Kawamoto et al teach that the dispersion can be further diluted by a user with a plasticizer or solvent to the desired

concentration for use (Col. 9, lines 1-4.) Kawamoto et al teach that an interlayer may be formed from the dispersion by incorporating the main constituent resin for the interlayer, and further, if necessary, a plasticizer and other additives, wherein the resin may be a polyvinyl butyral resin or ethylene vinyl acetate resin (Col. 9, lines 5-36.) Kawamoto et al teach that the ratio of plasticizer to ultrafine particles may suitably be determined depending upon the dispersibility of the ultrafine particles, the desired infrared ray shielding performance, or the nature of the ultrafine particles; wherein when ITO fine particles are used, the ratio of plasticizer is preferably within a range of 20 to 2000 parts by mass, per 100 parts of ITO particles (Col. 5, lines 65-Col. 6, lines 9.) In terms of the resin content for producing the interlayer, Kawamoto et al teach that the interlayer preferably contains ultrafine particles in an amount of 0.01 to 1 part by mass of the total mass of the main constituting resin (Col. 10, lines 31-39.) Kawamoto et al further teach that the composition may include other additives that read upon the claimed invention such as an adhesion-regulating agent (Col. 3-9.) Hence, one having ordinary skill in the art at the time of the invention would have been motivated to utilize an alkene glycol monoether type solvent as taught by Kawamoto et al, particularly ethylene glycol monomethyl ether and ethylene glycol monoethyl ether which read upon the claimed invention, wherein it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the optimum content of ultrafine particles, solvent, and dispersing agent to provide the desired viscosity and dispersibility as taught by Kawamoto et al for a particular end use or desired infrared shielding ability as taught by Kawamoto et al. With respect to the ATO particles, though Kawamoto et al fail to teach the content of Sb as instantly claimed, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize

any conventional ATO or to determine the amount of antimony to provide the desired infrared shielding properties for a particular end use. With respect to the substrate material, though Kawamoto et al specifically teach glass, one having ordinary skill in the art at the time of the invention would have been motivated to utilize the coating or infrared shielding film on functionally equivalent substrate materials such as plastic windows formed from polycarbonate or UV hardened acrylic resin, which are known functionally equivalent window substrates to glass, and would have been obvious to one having ordinary skill in the art at the time of the invention, wherein the heating temperature of the dispersion and as well the level of exposure to UV radiation can be determined by conventional, routine experimentation, with typical ranges falling within the claimed ranges. With respect to the thickness and properties listed in Claims 27 and 28, as previously discussed, one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum film thickness and optimum coating composition within the teachings of Kawamoto et al for a particular end use, wherein the claimed properties would flow naturally from the teachings of Kawamoto et al. Lastly, with respect to Claim 36, though Kawamoto et al teach that the composition can be utilized in various applications to provide infrared ray shielding properties, Kawamoto et al do not specifically teach a vessel comprising drinking water or foods as claimed, however, such use would have been obvious to one having ordinary skill in the art at the time of the invention.

Response to Arguments

7. Applicant's arguments filed 5/11/09 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
July 20, 2009